

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An automatic detecting method for a protocol nonconformity in a transmitting and receiving control process, occurring in ~~the a~~ communications communication between transmitting and receiving terminals that make at least one transmitting and receiving control process in accordance with a predetermined communication protocol, said method comprising:

acquiring a packet to be transmitted or received in the ~~communications~~ communication between said transmitting and receiving terminals;

calculating state information regarding a transmitting and receiving state of said packet to correspond to a result of transmitting and receiving control in accordance with said communication protocol from header information and payload information of a required kind of the packet, in an actual communication state;

storing nonconformity information beforehand featuring nonconformity in said at least one transmitting and receiving control process; and

comparing the state information calculated at ~~said calculation step~~ the step of calculating and the nonconformity information obtained at ~~said storing step~~ the step of storing in order to detect the transmitting and receiving control process where said nonconformity has occurred, wherein:

the state information is Transmission Control Protocol (TCP) connection information, and

the nonconformity information is at least one of a conditional formula regarding the TCP connection information, a conditional formula regarding the header information of the packet, and a combination thereof.

2. (Currently Amended) The automatic detecting method for protocol nonconformity according to claim 1, further comprising ~~an estimation step of~~ specifying on the basis of a predetermined algorithm the transmitting and receiving control process to be made based on the header information and the payload information of the required kind of the packet transmitted or received at said transmitting and receiving terminal in accordance with said communication protocol, and estimating the normal information corresponding to a processing result that said specified transmitting and receiving control process is normally performed, wherein said nonconformity information defines a relation between the state information calculated at ~~said calculation~~ the step of calculating when there is said nonconformity and said normal information.

3. (Original) The automatic detecting method for protocol nonconformity according to claim 1 or 2, wherein said nonconformity information defines a relation between said state information and a fixed value confirmed in advance for the nonconformity in said transmitting and receiving control process.

4. (Currently Amended) The automatic detecting method for protocol nonconformity according to claim 1 or 2, wherein ~~said calculation~~ the step of calculating further comprises updating said state information every time acquiring the packet, and ~~said comparison~~ the step of comparing further comprises comparing the latest state information updated at ~~said calculation~~ the step of calculating and said nonconformity information.

5. (Currently Amended) The automatic detecting method for protocol nonconformity according to claim 1 or 2, wherein ~~said state information includes a total number of transmitting and receiving packets, the maximum value or minimum value of packet size, and the~~ TCP connection information includes an evaluation value having at least one of a total number of transmitted packets, a total number of retransmitted packets, a total number of Selective ACKnowledgement (SACK) blocks, a minimum packet size, a throughput of a maximum retransmitted interval, and a round trip time up to receiving a response packet to the transmitted packet.

6. (Currently Amended) An automatic detecting apparatus for a protocol nonconformity in a transmitting and receiving control process, occurring ~~in the communications~~ a communication between transmitting and receiving terminals that make at least one transmitting and receiving control process in accordance with a predetermined communication protocol, said apparatus comprising:

~~packet-acquiring~~ means for acquiring a packet to be transmitted or received in the ~~communications~~ communication between said transmitting and receiving terminals;

~~ealeulation~~ means for calculating state information regarding a transmitting and receiving state of said packet to correspond to a result of transmitting and receiving control in accordance with said communication protocol based on header information and payload information of a required kind of said packet acquired by said ~~packet-acquiring~~ means for acquiring, in an actual communication state;

~~nonconformity-information-storing~~ means for storing nonconformity information beforehand featuring nonconformity in said at least one transmitting and receiving control process; and

~~comparison~~ means for comparing the state information calculated by said ~~ealeulation~~ means for calculating and the nonconformity information from the ~~nonconformity-information-storing~~ means for storing in order to detect the transmitting and receiving control process where said nonconformity has occurred, wherein:

the state information is Transmission Control Protocol (TCP) connection information, and

the nonconformity information is at least one of a conditional formula regarding the TCP connection information, a conditional formula regarding the header information of the packet, and a combination thereof.

7. (Currently Amended) The automatic detecting apparatus for protocol nonconformity according to claim 6, further comprising ~~estimation~~ means for specifying on the basis of a predetermined algorithm the [[a]] transmitting and receiving control process to be made for the packet acquired at either of said transmitting and receiving ~~terminal~~ terminals in accordance with said communication protocol based on a the header information and the payload information of a required kind of said packet acquired by said ~~packet-acquiring~~ means for acquiring, and estimating the normal information corresponding to a processing result that said designated transmitting and receiving control process is normally performed, wherein said nonconformity information defines a relation between the state information calculated by said ~~ealeulation~~ means for calculating when there is said nonconformity and said normal information.

8. (Currently Amended) The automatic detecting apparatus for protocol nonconformity according to claim 6 or 7, further comprising ~~packet-filter~~ means for selecting only a required packet based on the header information of the packet acquired by said ~~packet-acquiring~~ means for acquiring and transferring it the acquired packet to said ~~ealeulation~~ means for calculating.